

## Antibiotic Resistance Patterns of *E.Faecium* and *E.Faecalis* Strains Isolated from ICUs

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### Abstract

**Background and Objective:** some of predisposing factors for enterococci colonization are hospitalization in ICU, prolonged use of antibiotics and continued bed rest in hospital. In this study antibiotic resistance of enterococcus in hospitalized patients of four hospitals in Tehran were studied.

**Material and Methods:** the Clinical samples were taken from patients admitted to the ICU, from September 2011 to April 2012. Enterococci isolates were confirmed by biochemical tests, and *Enterococcus faecalis* and *Enterococcus* species by species-specific *ddl* genes. The disk diffusion and micro agar dilution susceptibility tests were performed according to Clinical and Laboratory Standards Institute (CLSI).

**Results:** of 41 isolates in ICUs, 22 (5.52%) were *E. faecium* and 19 (5.47%) were *E. faecalis*. Most of *E. faecium* was isolated from urine and *E. faecalis* from trachea specimens. The rate of resistance to vancomycin, ampicillin, gentamicin, chloramphenicol and nitrofurantoin in *E. faecium* isolates was more than that of *E. faecalis* and the rate of resistance to tetracycline, ciprofloxacin and erythromycin was the same in both of them. MIC<sub>50</sub> in vancomycin and ampicillin resistant *E. faecium* isolates was greater than 256 microgram and the MIC<sub>50</sub> in gentamicin resistant isolates was more than 1024 microgram. .

**Conclusion:** The presence of multi-resistant *E. faecium* strains in ICUs can be a serious warning for physicians and patients.

**Key words:** *Enterococcus faecium*, *Enterococcus faecalis*, ICU, Antibiotic Resistance